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EXAMINER

CIRIC, L

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 11/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.
09/410,896

Applicant(s)

Shih

Examiner

Ljiljana V. Ciric

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 22, 2001
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 8-10, 12-16, and 18-20 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 8-10, 12-16, and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☒ The proposed drawing correction filed on Aug 22, 2001 is: a) ☒ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

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DETAILED ACTION

Response to Amendment

1. This Office action is in response to the amendment and arguments filed on August 22, 2001.
2. Claims 1 through 3, 5, 8 through 10, 12 through 16, and 18 through 20 remain.

Response to Arguments

3. Applicant's arguments filed on August 22, 2001 have been fully considered but they are not persuasive.

In response to applicant's arguments regarding the criticality of the respective numbers of intersecting circular and linear grooves, the examiner respectfully reiterates that arguments or conclusory statements unsupported by factual evidence are insufficient to establish unexpected results, and are thus not persuasive. See In re Lindner, 173 USPQ 356 (CCPA 1972). The instant specification fails to provide any clear support for the applicant's new attempt to claim criticality.

The examiner also respectfully notes that applicant's argument that the *Moslehi* reference does not clearly teach, disclose, or suggest a second plurality of linear grooves that are in fluid communication with each and every one of a first plurality of circular grooves is not valid, as evidenced by Figure 3 of the *Moslehi* reference and as described in column 7, lines 3-15 of the same reference. The examiner hereby additionally wishes to note that exactly which grouping of circular grooves constitutes a first plurality of circular grooves, for example, is open to broad

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interpretation, especially since the claims in a pending application should be given their broadest reasonable interpretation; thus, for example, the innermost two concentric circular grooves as shown in Figure 3 of *Moslehi* may readily be taken to read on the first plurality of circular grooves.

In re Pearson, 181 USPQ 641 (CCPA 1974).

Applicant's arguments, particularly with regard to claims 1 through 3, 5, 8 through 10, 12 through 15, fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's arguments, particularly with regard to claims 1 through 3, 5, 8 through 10, 12 through 15, also fail to comply with 37 CFR 1.111 (c) because they do not clearly point out the patentable novelty which he or she thinks that claims 16 through 20 present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Drawings

4. The corrected or substitute drawings were received on August 27, 2001. These drawings are hereby approved.

Specification

5. The amended abstract of the disclosure is objected to because it is too long and because its last sentence refers to the purported merits of the invention. Correction is required. See MPEP § 608.01(b).

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Claim Objections

6. Claims 1 through 3, 5, 8 through 10, 12 through 16, and 18 through 20 are objected to because of the following informalities, for example: “everyone” [claim 1, line 8; claim 8, line 8; claim 16, line 9] should be replaced with “every one”; the comma immediately following “grooves” [claim 12, line 4] should be deleted for improved clarity and readability; “cooling said” [claim 16, line 10] should be replaced with “to cool the” for improved clarity and consistency; and, “said cooling fluid” [claim 20, line 3] should be replaced with “the cooling fluid” for improved consistency. Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 12, it is not clear whether the “plurality of circular and linear grooves” as cited in lines 3-4 of the claim are the same as, or in addition to, the “first plurality of circular grooves” and the “second plurality of linear grooves” recited in amended base claim 8 from which claim 12 depends, thereby rendering claim 12 indefinite with regard to the scope of protection sought.

Claim Rejections - 35 U.S.C. § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

10. Claims 16, 18, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by *Flanigan et al.* (filed May 1, 1998).

Flanigan et al. discloses the invention essentially as claimed, including a wafer pedestal 104 characterized by five circular concentric grooves and a plurality of linear radial grooves in fluid communication with each and every one of the circular concentric grooves to enable cooling using a coolant which may be argon [column 7, line 23]. See Figure 2, for example.

The reference thus reads on the claims.

Claim Rejections - 35 U.S.C. § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. As best can be understood in view of the indefiniteness of claim 12 as noted above (and alternately for claims 16, 18, and 20), claims 1 through 3, 5, 8 through 10, 12 through 16, and 18 through 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Moslehi*.

Moslehi discloses an apparatus and a method for cooling a semiconductor substrate 14 essentially as claimed, the pedestal or chuck 36 comprising a substantially planar top surface

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characterized by a plurality (i.e., two as shown in Figure 3) of circular concentric grooves 88 and a plurality of linear radial grooves 90 [i.e., Figure 3 and column 7, lines 3-9] which intersect each other [column 7, lines 3-15] and which are thus in fluid communication with each other. *Moslehi*, however, does not specify the dimensions of the grooves 88 and 90 to be any specific value nor does it specifically show more than two circular grooves 88 which are intersected by each and every one of linear radial grooves 90. Nevertheless, barring a showing of unexpected results, it is not inventive to merely optimize the size of an element, such as the width and depth of each of the grooves in the instant case, nor to duplicate parts (such as the circular and linear grooves) for a multiplied effect. See In re Reven, 156 USPQ 679 (CCPA 1968). Also see St. Regis Paper Co. v. Bemis Co., Inc., 193 USPQ 8, 11 (7th Cir. 1977).

Thus, it would have been obvious to one skilled in the art at the time of the invention to modify the number and the size of the grooves of the substrate of *Moslehi* in order to, for example, best meet the particular cooling requirements corresponding to a given semiconductor substrate.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Hatta* discloses a temperature control apparatus for a wafer pedestal or sample susceptor.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus, can be reached on (703) 308-1935. The fax phone number is (703) 305-3463.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc


LJILJANA CIRIC
PATENT EXAMINER

November 1, 2001